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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,778	03/29/2001	Chengda Yang	1748/110	5517
2101	7590	01/04/2005	EXAMINER	
BROMBERG & SUNSTEIN LLP 125 SUMMER STREET BOSTON, MA 02110-1618			LEE, MICHAEL	
			ART UNIT	PAPER NUMBER
			2614	

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/821,778

Applicant(s)

YANG ET AL.

Examiner

M. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-18, 26-35 and 39-41 is/are allowed.
- 6) ☒ Claim(s) 1-6, 19-23 and 36-38 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 24-25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6, 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kellar et al. (4,774,572).

Regarding claim 1, Kellar shows a scan converter including an adaptively interpolation means, which meets the upconverting step as claimed.

Regarding claims 2 and 3, note A/D converter 3.

Regarding claim 4, the interpolation is done in all digital image signals.

Regarding claim 5, the scan converter 4 is inherently carried out by a computer processor.

Regarding claim 6, the adaptive interpolation conversion in Kellar meets the space-variant approximation limitation as claimed.

Regarding claim 19, Kellar shows an image rectilinearization production means and the zoom effect/roaming means in the scan converter 4, which meet the normalizing step as claimed, and the adaptive interpolation means, which meets the adaptively filtering step as claimed.

Regarding claim 20, in addition of rejection to claim 19, the adaptively interpolating step is met by the adaptive interpolation means in Kellar.

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Regarding claim 21, in addition of rejection to claim 19, the adaptively smoothing step is met by the adaptive interpolation means in Kellar.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22-23, 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kellar et al. (4,774,572).

Regarding claims 22-23, 36, 37, 38, in addition of above, Kellar does not specify the computer codes for carrying out the invention as claimed. In any event, it is well known in the art that a computational step can be implemented by either a computer hardware or software. It is a matter of design choice. The difference between the hardware implementation and software implementation is that the former can process data in a higher speed because it is devised to do a single task while the later is slower but can be flexibly altered. Since the scan converter 4 in Kellar is inherently carried out by at least a microprocessor, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Kellar by a computer software if flexibility is being sought.

***Allowable Subject Matter***

5. Claims 9-18, 26-35, 39-41 are allowed.

6. Claims 7, 8, 24 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: Prior art does not specify or teach the gradient estimating step, the selecting step, the coefficient estimating step, and the determining step as recited in claim 9, the defining step, the estimating step, the selecting step, and the determining step as recited in claim 26, estimating step, and the using step as recited in claim 41, and the anisotropic approximation as recited in claims 7, 8, 24 and 25.

### ***Response to Arguments***

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Lee whose telephone number is 703-305-4743. The examiner can normally be reached on Monday through Thursday from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached on 703-305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'M. Lee', written in a cursive style.

M. Lee  
Primary Examiner  
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